

REMARKS

By this amendment, claims 1-3 and 5-7 are revised, claim 4 along with non-elected claims 8-17 are canceled and new claim 18 is added to place this application in condition for allowance. Currently, claims 1-7 and 18 are before the Examiner for consideration on their merits. Claim 18 combines the limitations of claims 1, 2, and 3 with added functional language regarding the dual purpose of the thermocouple arrangement.

In the Office Action, the Examiner noted an informality with respect to claim 2, and this problem has been rectified by the amendment to this claim.

Turning now to the prior art rejection, it is submitted that the rejection is improper in light of the change to claim 1, and that the applied prior art does not now establish a *prima facie* case of obviousness against claim 1.

In review, claim 1 is revised to clarify that the nozzle is arranged to spray the water on a thin wall of the cup, and that the heating device and end portion of the temperature sensor are brazed to the thin wall. Also, Claim 6 is rewritten into independent form.

Turning now to the rejection, the Examiner rejected claims 1-5 under 35 U.S.C. § 103(a) based on the combination of United States Patent No. 6,521,047 to Brutti et al. (Brutti) when modified by United States Patent Nos. 6,067,403 to Morgandi and/or 4,881,493 to Riba. The Examiner has taken the position for claims 1-4 that Brutti taught all the features of claims 1 and 2 except for the fact that the temperature sensor and heating device are brazed to the "cup." The Examiner cites Morgandi and Riba to allege that it is known to attach heaters in steam generators using brazing. The Examiner further contends that it is known to braze a temperature sensor to a location as part of the steam generating unit.

Notwithstanding the teachings of Morgandi and Riba, Brutti does not teach that which is alleged in the rejection. Moreover, neither Morgandi nor Riba supply the deficiencies in Brutti so that even if one of skill in art were to modify Brutti with the teachings of Morgandi and/or Riba, the invention as now defined in claim 1 is still not taught or suggested.

First, Brutti does not even teach a steam generating unit. Brutti relates to an apparatus for liquid delivery into a chemical vapor chamber. A part of this apparatus is an evaporation chamber that has an inlet for the injection of liquid precursors or precursors in solution ("precursors"). The injected precursors follow a tortuous path in the evaporation chamber to ensure that total evaporation of the precursor occurs, see col. 3, lines 37-43. This is not in the least related to a steam generating unit and the rejection fails for this reason alone.

Secondly, Brutti is non-analogous art and not valid prior art against the claims. The first test to determine whether a piece of prior art is non-analogous is whether the prior art is in the field of the inventor's endeavor. If the answer to this inquiry is no, the second test inquires as to whether the reference is concerned with the problem faced by the inventor. Using these two tests, it is clear that Brutti is non-analogous art. The answer to the first test is no; an apparatus for supplying an evaporated precursor for chemical vapor deposition is not in the field of the invention, i.e., steam generation.

The second test is also not met. Brutti is concerned with improving the evaporation of the precursor materials. The present invention relates to the problem of oxide formation in the prior art steam generators and inconsistent steam generation. The two are not related, and Brutti is not valid prior art against the claims.

A third reason that the rejection is in error is that the motivation to combine the references is lacking. Brutti is an apparatus for supplying an evaporated precursor for chemical

vapor deposition. How does one of skill in the art combine Brutti with Morgandi, which relates to a steam generator for a steam iron, or Riba, which relates to a steam generator for a sauna or steam iron. While Morgandi and Riba may be at least peripherally related to steam generation, they have nothing in common with chemical vapor deposition. Given the vast disparity between Brutti and the secondary references, it is contended that there is no motivation to have one of skill in the art look to the steam generator art of Morgandi or Riba to modify an apparatus intended for chemical vapor deposition.

To summarize, not only is the reliance on Brutti misplaced when formulating the rejection under 35 U.S.C. § 103(a), the contention that Brutti can somehow be modified with the teachings of Morgandi and/or Riba is equally misplaced.

Fourth and notwithstanding the teachings of Morgandi and/or Riba, Brutti does not teach the stainless steel cap and cup assembly with the water directed to the cup wall that also has attached thereto the temperature sensor and heating device. In Brutti, the nozzle emitting the precursor is directed into the initial channel 36. The precursor liquid then travels down channel 36, splits and travels upwardly via two other channels 38 and 44. The precursor then passes through two more channels 40 and 42 downwardly to the outlet 14.

If the Examiner considers the metallic tube 34 to be the claimed wall that has the heaters 50 brazed thereto, the precursor is directed to the inner wall of the channel 36, which is not the same wall linked to the heaters 50. While the thermocouple 54 could be considered to be linked to the tube 34 along with the heaters, again, the tube 34 does not receive the precursor spray from the nozzle. Therefore, Brutti does not teach the aspect of the stainless steel steam generator as contended in the rejection.

Since Brutti does not teach the features of claim 1, as amended, the question remains whether there is motivation to modify Brutti with either of Morgandi or Riba, or some other source such as Brutti itself. The answer to the question is that there is no basis to modify Brutti so as to arrive at the invention of claim 1, as amended. Morgandi does not even employ a nozzle for spraying of water into a pot. Likewise, Riba pumps water into the generator from the bottom. Further, to modify Brutti to have the injector spray the precursor on the wall containing the heaters 50 would go directly against the aim of Brutti, i.e., arrange the travel of the precursor in a path that is longer than the length of the evaporation chamber, see col. 1, line 65 to col. 2, line 6. In fact, to take out the structure forming the multi-path channels of Brutti renders Brutti inoperable for its intended purpose, and such a modification lacks any basis in fact whatsoever.

In light of the arguments and amendments described above, it is respectfully submitted that Brutti is not valid prior art against the claims and the rejection fails for this reason. Secondly, the combination of reference is improper based on their disparate teachings. Third, Brutti fails to teach the features of claim 1, as amended, and the secondary references do not make up for the failings of Brutti. Lastly, there is no basis from which to arrive at the invention of claim 1, as amended, considering the collective teachings of the applied prior art. Therefore, the rejection of claim 1 is improper and must be withdrawn.

Claim 6 is separately patentable over the applied prior art. In the rejection, the Examiner contended that since Morgandi used a passageway into the chamber for the temperature sensor, that one of skill in the art would have found it obvious to do so in Brutti. One reason that rejection fails is that Morgandi does not teach a stud brazed to a bottom of the cup as is recited in claim 6. While the Examiner alleges that the end pieces of Morgandi are studs, they are part of the boiler construction. Claim 6 calls for a stud brazed to the bottom of the cup. At best, the end

pieces of Morgandi are the "bottom" not the claimed stud. Therefore, Morgandi does not teach the features of claim 6 regarding the stud, and even if combined with Brutti, the limitations of claim 6 are still not taught. Therefore, the rejection of claim 6 is in error in this regard, and claim 6 is separately patentable over the applied prior art.

Claim 18 is separately patentable over the combination of references. Claim 18, in essence, defines the generator as including a thermocouple, wherein the side of a tip of the thermocouple directly contacts the inside wall of the cup and that a tip end remains exposed after brazing. Claim 18 also specifies that the location that has the thermocouple brazed to the inside wall that receives spray from the nozzle and clarifies that the thermocouple allows for sensing of the inside wall temperature and the water temperature inside of the cup, see page 5, lines 1-10.

In the rejection, the Examiner alleges that thermocouples 54 and 56 of Brutti meet the limitations of original claims 2 and 3 and notes that a small tip remains exposed after connecting. A closer review of Brutti and the claim language at issue reveals that Brutti does not teach the limitations found in claim 18, and cannot anticipate this claim due to this failing.

The thermocouples 54 and 56 are described in col. 4, lines 6-22 of Brutti. There is no detail regarding these thermocouples other than thermocouple 56 is placed on the inside of the tube to regulate the temperature of the evaporator apparatus with thermocouple 54 enabling the temperature of the resistance to be monitored.

Since claim 18 defines the thermocouple as being brazed to the inside wall that receives the nozzle spray, the only relevant thermocouple in Brutti is 56. While it could be said that tip end of thermocouple 56 is free, the question remains as to whether Brutti also teaches the other feature of claim 18, i.e., "the end portion of the temperature sensor is brazed at a location on an inside wall of the stainless steel cup, the inside wall receiving spray from the hollow cone spray

nozzle, and further wherein the temperature sensor is a thermocouple and at least a side of a tip of the thermocouple directly contacts the inside wall... ." There is no express disclosure in Brutti that the side of the tip directly contacts the inside wall. In fact, there is no disclosure at all as to how the tip of the thermocouple interfaces with the wall of chamber 36 or the extent of the active area of the thermocouple. Therefore, the Examiner can only rely on Brutti to teach the limitations of claim 18 from an implicit or inherent standpoint. Applicants submit that while Brutti does teach that the thermocouple 56 is placed inside the tube to monitor the temperature of the evaporation, this does not imply that the side of the tip is in direct contact with the inside wall to allow for inside wall monitoring temperature. In fact, the wall of the chamber 36 is not heated and thermocouple 54 is designed to monitor the resistance 50, so why would Brutti have the arrangement of claim 18 for the end of thermocouple 56? There is no need to have the thermocouple directly contact the wall of chamber 36 for wall temperature sensing and there is no basis for the Examiner to conclude that this arrangement is inherent in Brutti.

Lacking a basis for inherency, the Examiner could only allege that it would be obvious to modify the thermocouple 56 to include the limitations found in claim 18. However, there is no reason to do this other than using Applicants' invention as a teaching template. As pointed out above, Brutti has no reason to monitor the wall temperature of chamber 36 so there can be no legitimate reason to arrange the thermocouple 56 as defined in claim 18.

In light of the arguments above regarding claim 18, this claim is neither anticipated nor rendered obvious based on Brutti and the other references, and it should be allowed with claims 1 and 6.

Remaining claims 2, 3, 5, and 7 are also in condition for allowance as a result of their respective claim dependency.

Accordingly, the Examiner is requested to examine this application in light of this response and pass claims 1-3 and 5-7 and 18 onto issuance.

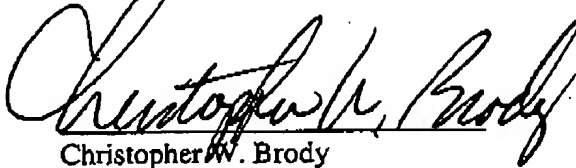
If the Examiner believes that an interview would be helpful in expediting the allowance of this application, the Examiner is requested to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the Office Action dated December 22, 2006.

Again, reconsideration and allowance of this application is respectfully requested.

Applicants respectfully submit that there is no fee required for this submission, however, please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,
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